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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/006,363      | 01/13/1998  | KATSUYA NAKAGAWA     | 47958               | 3646             |

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EXAMINER

NGUYEN, JIMMY H

ART UNIT

PAPER NUMBER

2673

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Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                 |  |                   |  |
|------------------------------|-----------------|--|-------------------|--|
| <b>Office Action Summary</b> | Application No. |  | Applicant(s)      |  |
|                              | 09/006,363      |  | NAKAGAWA, KATSUYA |  |
|                              | Examiner        |  | Art Unit          |  |
|                              | Jimmy H. Nguyen |  | 2673              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see specification, page 4, last two paragraphs). See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouellette et al. (USPN: 5,581,243).

As per claims 1 and 4, Ouellette et al. disclose a virtual keyboard comprising a display (a display 28) for displaying a keyboard (a keyboard K), a transparent pressure sensitive panel (a touch screen 24) disposed on the display and a processor (a touch screen controller 18) for receiving information of positions detected and sent in a time sequence from the pressure sensitive panel when any key in the keyboard is pushed, identifying a position of the pushed key according to a coded electrical signal corresponding to the touched locations and outputting a code corresponding to a pushed key (figure 1, col. 1, lines 45-63 and col. 5, lines 4-10).

Furthermore, Ouellette et al. teach a well-known virtual keyboard functioning as a conventional

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keyboard or typewriter (col. 1, lines 51-63). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize how a conventional keyboard operates, e.g., in order to display a capital "A", a special key "Shift" is first pushed and thereafter when both of the special key "Shift" and a general key "a" are pushed at the same time, the keyboard outputs a "A" code corresponding to the pushed combination of the special key "Shift" and the general key "a", and a capital "A" is thereby displayed on the screen. In other words, Ouellette et al. teach a well-known virtual keyboard having a function that when a special key is first pushed and thereafter when both of the special key and a general key are pushed at the same time, a code corresponding to the combination of the pushed special key and the general key is output, thereby displaying a character corresponding to the code. It would have been obvious to one of ordinary skill in the art to utilize the well-known virtual keyboard's such function in Ouellette et al. because this would allow the user to operate the virtual keyboard in the same manner fashion as a user operate on a conventional keyboard (col. 1, lines 52-54). Therefore, it would have been obvious to obtain the claimed invention as specified in claims above.

4. Claims 2, 3, 5-18, 20, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouellette et al., as applied to claims 1 and 4 above, and further in view of Dunthorn (USPN: 4,914,624).

In regard to claims 2 and 3 as applied to claim 1 above, and claims 5 and 6 as applied to claim 4 above, Ouellette et al. disclose the claim invention except that Ouellette et al. do not disclose expressly in many words the detailed functions of the virtual keyboard, i.e., the virtual keyboard comprises a processor for receiving the positional information including a furthest returning position, and for determining the position of the general key by doubling a distance

between a special key position and the furthest returning position, so that the virtual keyboard operates in the same manner as a conventional keyboard.

However, Dunthorn discloses that it has been discovered that a first button, obviously considered as a special key, is first pushed and thereafter when both of the first button and the second button, obviously considered as a general key, are pushed at the same time, the touch screen returns an information including a middle position between two touched locations or two touched keys (col. 4, lines 4-30, lines 47-68). Furthermore, it would have been obvious to one of ordinary skill in the art to identify the position of the second button (i.e. the general key) from the received middle position.

Ouellette et al. disclose the claimed device except that Ouellette et al. do not disclose expressly in many words the detailed functions of the virtual keyboard as claimed. Dunthorn teaches that a first key is first pushed and thereafter when the first and second keys both are pushed at the same time, the received information including a middle position returns. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize that Dunthorn remedies for the deficiency of Ouellette et al. in order to explain how the virtual keyboard may operate in the same manner as a conventional keyboard, as taught by Ouellette et al. (col. 1, lines 51-63). Therefore, Ouellette et al. in view of Dunthorn obviously disclose the claimed invention as specified in claims above.

In regard to claims 7-17, due to the similarities of these claims to those of claim 2 above, these claims are therefore rejected for the same reason as set forth in claim 2 above.

As per claims 18, 20, 22 and 24, Dunthorn further discloses a touch sensitive screen embodying the divide resistance technique for determining the position in each of the x and y

directions (col. 4, lines 4-44). Therefore, Ouellette et al. in view of Dunhorn obviously disclose the claimed invention as specified in claims above.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouellette et al., as applied to claim 1 above, and further in view of Yoshikawa (USPN: 5,392,035).

As per claim 19, Ouellette et al. further disclose the transparent pressure sensitive panel (a touch screen 24) being resistive type pressure panel (col. 4, line 61 through col. 5, line 10), but do not disclose expressly the elements of the panel, as claimed.

However, Yoshikawa teaches a well-known conventional resistive-type transparent sensitive panel (fig. 3) comprising a plurality of resistance wires (Rx) being arranged in X-direction and a plurality of resistance wires (Ry) being arranged in Y-direction; a first pair of electrodes (1A, 1B) and a second pair of electrodes (41A, 4B) (col. 1, line 21 through col. 2, line 34).

Ouellette et al. disclose the claimed device except for a detailed structure of the transparent pressure sensitive panel. Yoshikawa teaches the structure of a well-known conventional resistive-type transparent sensitive panel. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize that Yoshikawa remedies for the deficiency of Ouellette et al. in order to detail all elements of resistive-type transparent sensitive panel. Therefore, Ouellette et al. in view of Yoshikawa obviously discloses the claimed invention as specified in claim above.

6. Claims 21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouellette et al. in view of Dunthorn, as applied to claims 7, 11 and 14 above, and further in view of Yoshikawa.

As per claims 21, 23 and 25, due to the similarities of these claims to the combinations of claim 19 and respectively claim 21 or 23 or 25, these claims are therefore rejected for the reason as set forth above.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouellette et al., as applied to claim 1 above, and further in view of Applicant's Admitted Prior Art, hereinafter AAPA.

As per claim 19, Ouellette et al. further disclose the transparent pressure sensitive panel (a touch screen 24) being resistive type pressure panel (col. 4, line 61 through col. 5, line 10), but do not disclose expressly the elements of the panel, as claimed.

However, AAPA disclose a prior art resistive-type transparent sensitive panel (fig. 1) comprising a plurality of resistance wires (10) being arranged in X-direction and a plurality of resistance wires (10) being arranged in Y-direction; a first pair of electrodes (11s) and a second pair of electrodes (11s) (fig. 1, page 4, lines 15-24).

Ouellette et al. disclose the claimed device except for a detailed structure of the transparent pressure sensitive panel. AAPA teaches the structure of a prior art resistive-type transparent sensitive panel. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize that AAPA remedies for the deficiency of Ouellette et al. in order to detail all elements of resistive-type transparent sensitive panel. Therefore, Ouellette et al. in view of AAPA obviously discloses the claimed invention as specified in claims above.

8. Claims 21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouellette et al. in view of Dunthorn, as applied to claims 7, 11 and 14 above, and further in view of AAPA.

As per claims 21, 23 and 25, due to the similarities of these claims to the combinations of claim 19 and respectively claim 21 or 23 or 25, these claims are therefore rejected for the reason as set forth above.

***Response to Arguments***

9. Applicants' arguments filed 11/21/2001, have been fully considered but they are not persuasive because as follows:

In response to applicants' argument filed "In sum, the complete prior art record, does not anywhere disclose, teach or suggest, as is taught and disclosed by Applicants, a virtual keyboard embodying a pressure sensitive panel whereby the position of a second key that is pushed at the same time with a first key can be determined and so a code representative of the pushed combination can be outputted", page 11, last paragraph, as described more in detail above, this feature is included in the well-known virtual keyboard disclosed by Ouellette et al.. Further, Examiner does not understand what the Applicants mean "It should be recognized that ... , namely Auer et al. ... thereof", page 10, lines 5-8, i.e., the relationship between Ouellette patent and Auer et al., and what purposes the Applicants disclose the reference's Auer et al..

In response to Applicant's arguments filed "As to Dunthorn, this reference discloses a touch sensitive screen embodying the divide resistance technique for determining positions and which teaches that when two places are touches at the same time, **a function for canceling a process etc. is outputted.** ... positions", page 12, line 17 through page 13, line 4, because a function of canceling a process is just an example of one of many functions that may be preestablished as taught by Dunthorn (col. 6, lines 48-55), and Dunthorn discloses that the buttons on the touch screen are assigned and defined by establishment of a function, i.e., a person



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of ordinary skill in the art may assign a button representing for a character (col. 4, lines 47-51). The important matter, which is discovered by Dunthorn, when a user touches two buttons on the touch screen, the touch screen returns an information which includes the middle position (i.e., a furthest detected position) between the two touched buttons.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

**or faxed to:**


**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

JHN

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**BIPIN SHALWALA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**